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ABSTRACT

The National Child Labor Committee, in its formative evaluation of secondary cooperative education programs, collected data that were used to identify outstanding programs, define key elements of cooperative education programs, and estimate emphases and areas of success of outstanding programs. A list of key elements of cooperative education programs and examples of exemplary key elements in outstanding programs were submitted to administrators and coordinators for comment and evaluation. The average number of schools reporting an element as exemplary varied directly with the element's estimated importance; no teacher-coordinator reported doing an outstanding job in gaining union cooperation; and employer linkages, relations, and cooperation were seen as the most important area. Another finding was that teachers-coordinators did not analyze local job market data in order to compete successfully for existing jobs. A survey of state departments of education showed that they were interested in work experience and cooperative education programs, claimed to be providing adequate services in a wide range of areas, and provided little assistance in linking in-school activities to the labor market. Findings from other surveys were that employers were poorly informed about cooperative education programs, that cooperative education programs tended to place only the best students, and that few major corporations favored secondary school cooperative education. (YLB)

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AN INTERIM REPORT ON THE NATIONAL CHILD LABOR COMMITTEE'S
RESEARCH IN SECONDARY SCHOOL COOPERATIVE EDUCATION

SOLCMON HOBERMAN

The National Child Labor Committee is engaged in a project which has as its objective to improve and extend the use of cooperative education programs in secondary schools.

This is not primarily a research project, although research is an important element. We are preparing materials which we hope will be useful for program administrators and intend to mount a campaign to increase interest and support for secondary school cooperative education. Our research is directed toward providing information for action. We are interested in getting leads on what makes programs successful and how to help improve programs rather than in proving a thesis. However, our research is respectable, formative research and could provide interesting hypotheses for scholars to test.

There are, in addition to the practical reasons relating to our project, good research reasons for conducting only preliminary and formative research at this time.

Some are the reasons are:

1. Programs called cooperative education range from well designed coordinated and integrated classroom education and work experience to work experience during school hours unrelated to anything taking place in the classroom.
2. Objectives for cooperative education differ from school to school and written and formal objectives are frequently not the same as the operational objectives*.
3. Most programs have multiple objectives.

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* APPENDIX A lists some of the objectives of cooperative education programs.

4. There is no generally accepted set of elements for cooperative education programs. The elements that are common to programs are not well defined.** Consequently, there is little basis for assuming similar cause/effect relationships.

5. Available statistics with respect to participation and outcome are incomplete and of questionable reliability and validity.

Indicative of this last finding is the failure of most states to gather longitudinal data or data relating to participation of "disadvantaged" students and the lack of agreement in the number of participating students reported by states to the Department of Education and us and the wide variation in reported numbers from year to year. For example, in reports to the Department of Education and to us, one state reported 19,800 in 1978-79; 27,700 in 1979-80; and 16,600 in 1980-81. Another reported 14,600 for 1978-79; 5,400 for 1979-80 and 20,000 for 1980-81.

It is interesting to note that probably the most extensive study of programs and approaches to prepare youth for work and the impact of work experience was undertaken not by the Department of Education but by the Department of Labor. The sixty or so volumes included in the Youth Knowledge Development Report is far more impressive than any Department of Education sponsored research. Unfortunately it provides little information or guidance on strengthening cooperative education programs or increasing business participation in these programs.

Our research design used primarily survey techniques and spread a wide net covering a broad range of issues in many areas. The reason for the wide net was to give us as many leads as possible. While most of the data gathering is complete, the analysis and use of findings are not.

We gathered data relating to:

1. Level of participation and interest in cooperative education from state and local education departments, private and public-sector employers and unions, and organizations which link education and the private sector.

** APPENDIX B is a list of elements we identified and our definitions.

2. Nature of labor market information available to program administrators and used by them.

3. Competition among different organizations seeking private sector work stations for training, development and placement and among different educational programs for students' time.

4. Information employers have about cooperative education.

5. Outstanding cooperative education programs in urban, suburban and rural schools.

6. Key elements of cooperative education programs and examples of exemplary key elements in outstanding programs.

7. Areas in which school programs need support.

Based on these data we have to date:

1. Identified outstanding programs in 34 states.

2. Defined key elements of cooperative education programs.

3. Estimated emphasis and areas of success of outstanding programs.

We developed a preliminary set of key elements from a review of the literature, manuals, and other materials obtained from state departments and work experience programs. The first set of elements was submitted for comment and evaluation to a panel consisting of university people and state department and local program administrators and coordinators. 51 elements were identified and ranked in five levels of importance for program success. The elements were redefined and submitted to a group of administrators and coordinators in the outstanding programs for comment.

Three elements were deleted and two added as a result of this second round: This left a list of 50 key elements.* The definitions of these elements are in Appendix B.

The elements are also grouped into five functional areas:**

- A. Obtaining support for the program
- B. Goal setting, planning and administering
- C. Employer linkages, relations and cooperation
- D. In-school program activities
- E. Follow-up and evaluation

Administrators and coordinators in 80 outstanding programs were asked to identify the elements in their programs that were exemplary. We have replies from 36.

The responses show a degree of uniformity which is worthy of note.

1. The average number of schools that report a specific element as exemplary in their programs varies directly with the estimated importance of the element. That is except for elements in the functional area "Employer linkages, relations and cooperation," more schools report having exemplary elements, on the average, in group I than in group II, etc.

If we assume that self-reported excellence is related to the elements that teacher/coordinators perceive to be important, this finding tends to validate the assignment of elements to categories of importance.

* APPENDIX C lists the elements in order of importance. Group I being the most important elements.

** APPENDIX D

2. No teacher/coordinator reported doing an outstanding job in gaining the cooperation of unions. This is the only element for which there is no positive response. Further "gaining the cooperation of unions" is the element which received the lowest rating in order of importance. Both of these findings are in agreement with findings in other studies, e.g. Gary Lloyd* found that 90% of the programs he studied received no assistance from unions, 8% were hindered by unions and 2% helped. Teachers and unions are two of the major groups concerned with developing the work force of the future. Considering the degree to which the teaching profession is unionized, this speaks to a lack of communication and cooperation in developing a competent work force between fellow unionists.

3. "Employer linkages, relations and cooperation" is seen as the most important functional area. The sub-group of most important elements in this functional area are elements directed toward changing the work experience and relationships at the work place to make them more integral to the education/learning process. The elements are: "training work supervisors," "monitoring work stations," "jobs designed to meet developmental needs," "developing work stations," "training plan," "support for program by employers' personnel," "flexibility in adjusting work stations to meet students' needs," and "orienting employers and supervisors."

These elements, with one exception, are in the two highest groups with respect to importance. There are 29 distinct elements in these two highest categories. In 36 school self-evaluations, the average number of programs reporting one of the seven as outstanding is 7 with $S_{x_1}^2 = 7.4$. The average number reporting one of the other 22 elements is 13.5 with $S_{x_2}^2 = 13.5$. The difference between means is 6.1 with $S_{\bar{x}_1 - \bar{x}_2} = 3.4$. The value for t , is 4.2 with 27 degrees of freedom. The difference is very highly significant.

This finding indicates that the major shortcoming in cooperative education recognized by program administrators and teacher/coordinators is in developing and maintaining relationships with employers which permit seeking and obtaining changes in the work place to strengthen integration and mutual support between

*"An Assessment of Cooperative Vocational Education Programs Since 1976."

in-school and on-the-job learning and practice. It is not unexpected that teacher/coordinators who have difficulty obtaining work stations will tend to avoid doing anything that might antagonize work sponsors. The finding based on questionnaire responses is reinforced by our findings in our field studies. In addition to sending mail questionnaires, we visited nine states and some 20 school programs which had been identified by state departments and school districts as outstanding. We met with teacher/coordinators and one or more representative employers in each program. In our discussion with employers we found that they felt no significant pressure from the teacher/coordinators of any kind and certainly not to make any change in the work station to meet students' learning needs. In some cases there were outstanding training plans supplementary to the training agreements. However, there was little follow-up to check on implementation or need to change the training plan. Teacher/coordinators contacts with employers are limited to solving problems brought to their attention by employers and students, checking on safety, obtaining performance evaluations and getting forms filled out and signed. Few monitor the job assignments for learning or to help the employer provide better supervision or learning experiences. Many employers stated that they would welcome discussion and support from the teacher/coordinator.

Our findings indicate that the best programs try hard to obtain useful work stations, to match student and work station, and to gain acceptance by employers for the training plan. There is little evidence to indicate any significant efforts to assure that the supervision is conducive to the students acquiring good work habits or using and gaining skills related to in-school curriculum or that the experience is challenging and developmental.

How to make the work station a better place for learning needs to be looked at more closely; for this is the area which should most distinguish cooperative education from other types of work experience and from in-school vocational education programs. It is the area to which we will give increased attention in the remaining months of our project. It is the area to which educators interested in improving cooperative education should be devoting more time, energy and resources.

Another finding of importance for vocational education in general and for cooperative education in particular relates to projection of labor

market needs. We at NCLC are aware, perhaps to a greater extent than most secondary school educators (because of our involvement with a broad range of work experience programs), of labor market complexities and the competition for entry level jobs. When educators have insufficient knowledge of the labor market and the activities of their competitors for the available jobs, the problems they face in identifying appropriate occupation into which to direct and provide education for students, become virtually unsolvable. Our evidence suggests that most teacher/coordinators do not compete successfully for existing jobs and that this failure is an important reason for mismatches between school curriculum and on-the-job experience.

In the best of times, when there are more jobs than job seekers, the problem is difficult unless there is good job market information. In worst of times, with high unemployment, without precise job market information, the problem is not solvable. Most teacher/coordinators do not analyze the local job market data. They take what jobs they can get rather than the jobs which are needed and available. In the study by Gary Lloyd -- not one of the 75 teacher/coordinators who participated in the study reported contacting or obtaining information from Employment Security or Job Service agencies. We asked the labor departments in the 50 states what kind of information they provide or could provide to help schools to plan vocational programs, to guide students, and to locate proper cooperative education placements. Forty-three state departments responded. Forty-two of them provide or were prepared to provide a wide range of information, including projected occupational needs for states and standard metropolitan statistical areas. Educators have to learn how to adapt this information for school districts. Considering the tough competition secondary schools face from Private Industry Councils, community-based organizations and post-secondary schools as well as from numerous voluntary organizations, individuals and employment agencies -- teacher/coordinators have insufficient information and use very little of the information which is available.

One result is that there are too few jobs for students who want to participate. Another is that many of the jobs for cooperative education students are in secondary labor market. These jobs provide little significant opportunities to learn useful new skills or to use in-school learning.

Jobs of this type can only provide learning on the job in generalized work behavior. Consequently, lack of effort to integrate and coordinate learning in school and on the job is understandable.

Predicting the nature of the job market is difficult. Teacher/coordinators are not trained in job market analysis and frequently do not have the time for employment analysis. But unless there is better information and the information is used more efficiently, jobs for students will continue to be mostly in the secondary job market. As distinct from most school districts, most Private Industry Councils (PIC) do make labor market area surveys. In some cases they share information with school districts, in some they prod schools to develop specific programs. In every case about which I have information the initiative came from the PIC rather than the school system.

In some cases Chambers of Commerce take the lead. One Chamber has assigned a full-time person to work with the local school district to improve curriculums and linkages to local industry. Another has produced a "resource notebook" with data on employment and employing companies to aid educators at both secondary and post-secondary levels.

Despite the obvious superiority of PICs' information, most teacher/coordinators seem to feel that they know as much about the labor market as they need to know. Why, we do not know.

We sought to determine how state departments of education view work experience, the nature of assistance they provide for local school districts and their priorities among programs directed toward preparing students for the transition from school to work. We sent state departments two questionnaires.

The responses to our first questionnaire (responses were received from 50 states) indicated that at some level there is significant interest in work experience and in cooperative education in almost every state. I say "at some level" because in our correspondence with the state departments which had been identified by a panel of experts as having outstanding cooperative education programs, we found both interest and indifference. The deputy commissioner who got our letter in one "outstanding" state, replied that the state did not sponsor cooperative education.

We visited the state and discovered first hand that its "outstanding" program had not been a myth. However, we also discovered that it had gone into the shade when its outstanding administrator left for another job. This dependence of programs on a single, competent, enthusiastic individual and loss of momentum and quality when the individual leaves, seems to be characteristic of cooperative education. It was commented upon in every visit to a state department or a local school. This points to failures in administrative structure, in retention and transfer of knowledge within school systems, in preparing teacher/coordinators and program administrators in college programs and inservice training and supervision.

Appendix E summarizes state departments of education responses to our first questionnaire. We received a response from each of the fifty states and Washington, D.C. Consequently N = 51 for each table unless otherwise indicated. We asked the state departments to identify outstanding school programs, estimate nature of state support needed by local school districts and the degree to which these needs were being met, indicate state priorities with respect to school-to-work programs, list barriers to expanding programs, and make suggestions for improving programs nationally and in each state.

The following findings are based on the information we have:

1. State departments have an interest in work experience and cooperative education programs
2. States claim to be providing adequate services in a wide range of areas. (This claim is only partially supported by the responses from selected local school districts.* In our field visits to school districts we found that many did not want any more state assistance, other than increased funds. There was a fear that increased assistance would mean increased dictation.)

*For example, 38% of states indicate that they provide adequate assistance to local schools to recruit work stations. In Gary Lloyd's study, only 10% of schools indicated receiving support from states in this element. This is similar to our field findings.

3. Almost all of the areas in which fewer than 40 percent of the states claim to be providing adequate assistance as areas to local school districts relate to linking in-school activities to the outside labor market. While there are many objectives for cooperative education, linking education to the world of work is surely among the most important and most generally accepted. These data also reinforce our finding that "relations and linking with employers" is the major area in which cooperative education must be improved.

4. The responses listed in tables 5, 6, 7, and 8 were free answer responses, not inhibited by limited choice. Few of the suggestions for improvement are for actions to improve linkage and encourage joint participation with employers in improving cooperative education.

Four other tentative findings from our other surveys are:

1. Based on our interviews with employers and replies from both national and local employers we find support for the hypothesis that employers are poorly informed about the differences between different work experience programs and do not understand the theory or practice of cooperative education or of their roles in the educational process.

2. It seems to be the case that most cooperative education programs -- not all -- "cream;" that is they provide

the employer with the students they believe will best meet the employer's needs and reflect well on the program, school and coordinator. This is understandable and desirable from some points of view -- but not necessarily from a societal point of view or from that of disadvantaged and handicapped students. The establishment of a "special need" category may have actually increased "creaming." Our findings are based on discussions and observations since it is not possible to get written documentation. All but two of the states that have returned our second questionnaire state that they do not gather statistics on race of students or whether or not they are disadvantaged. Disadvantaged students -- and racial minorities -- seem to be better represented in work experience programs than in cooperative education programs. While people in some companies clearly would prefer the best available students and would tend to discontinue participation with even one bad experience, others would respond favorable to challenge. The teacher/coordinator should be able to distinguish among these and to work to increase the ranks of the second group. The few teacher/coordinators we found who do this make good use of their advisory boards in this effort.

3. We have received sixty-odd responses from 100 questionnaires we sent to major U.S. corporations. The responses indicate that few are in favor of secondary school cooperative education. We have received

only one statement of national policy which informs local offices and plants that national policy encourages participation. This is at a time when there is general recognition that the changing labor market calls for greater industry participation in education for employment. Newsweek in its 10/18/82 issue devoted its editorial to jobs and stated, "Industry cooperation with the educational system is vital." Most companies have no knowledge about secondary school cooperative education programs. Some indicated that they might participate when the economy improved and some stated opposition to secondary school work study programs on a variety of grounds or no grounds at all. There is a need for a national effort to inform and encourage participation by national companies. This will not reduce the need for local efforts as virtually every company that knew about cooperative education indicated that the decision to participate is a local decision. However, national publicity and policy will open doors. We need for secondary school cooperative education an organization similar to the National Commission for Cooperative Education -- the post secondary organization. Responses from federal agencies did not indicate greater knowledge, participation, or interest than national companies.

4. The two elements identified by the greatest number of teacher/coordinators as exemplary were "public relations" and "community support for program." I don't know exactly what this means but obviously programs which are outstanding in these two elements are not overlooked by state departments of education.

APPENDIX A

KEY ELEMENTS*

Arranged in Functional Areas** and grouped within area by Level of Importance***

KEY ELEMENT DEFINITIONS

Area A: Obtaining Support for the Program

GROUP I

1. Public relations: On-going activities to inform both the general public and key groups, eg.g, employers, about the cooperative education program's objectives, activities, concepts, ideals, and successes for the purpose of developing support for programs and increasing participation.

GROUP II

2. Employer recognition: A formal program to recognize and encourage continued employer participation and efforts to achieve program objectives and to increase support for cooperative education.
3. Community support for programs: The views of people and organizations in the community with respect to cooperative education programs and their expressed positions with respect to continuing and expanding these programs.
4. Support for program by employers' personnel: Increasing the support of supervisors and other workers to the objectives and processes of the program and the degree to which they try to implement the training agreement and training plan.

GROUP III

5. Status of work experience programs in the school system: How participants, students and staff are viewed by others in the school and the level of acceptance, endorsement and support for cooperative education given by principals, guidance counselors, teachers, and administrators.

* Fifty elements identified by a panel as key for cooperative education programs.

** Five Functional Areas into which the key elements fall: A: Obtaining Support for the Program; B: Goal Setting, Planning and Administering the Program; C: Employer Linkages, Relations and Cooperation; D: In-School Program Activities; E: Follow-Up

*** Importance for design and conduct of an outstanding secondary cooperative education program. Group I contains the most important elements, etc. See page for more complete definition. The order within groups is random and not indicative of relative importance.

6. Parents' participation and support: The degree to which parents are involved in the cooperative education program including: serving on advisory committees, participating in activities to gain community and employers' support for cooperative education, supporting cooperative education goals and policies, and keeping informed of their children's progress.
7. Citizen advisory or steering committee: An official body with persons representing employers and community groups which meets regularly for the purpose of offering counsel, direction and assistance for the cooperative education program.
8. Recruiting students: The techniques and approaches used to inform and attract students for cooperative education.

Group IV

9. Resources provided by government: Both budgeted and unbudgeted resources made available by the federal, state, and local governments for the cooperative education program, including funds, materials, supplies, equipment, space, staff, consulting services, and technical assistance.
10. Resources obtained from other than government sources: Resources, including: materials, supplies, equipment, consulting services and and technical assistance contributed to the cooperative education program by employers and others in the country.
11. Support by employer organizations: How employer organizations view cooperative education and the extent to which they help the program by recommending and recruiting people to serve on advisory committees, providing technical assistance, suggesting curricula, etc.

GROUP V

12. Support by unions: How unions view cooperative education and the extent to which they help the program by recommending and recruiting people to serve on advisory committees, providing technical assistance, suggesting curricula, and encouraging placements in union shops.

Area B: Goal Setting, Planning and Administering the Program

GROUP I

1. Selecting and training teacher/coordinators: Minimum requirements and methods for selecting, assigning and training personnel assigned as cooperative education teacher/coordinators.
2. Program planning: Plans to develop, conduct and evaluate a cooperative education program including plans to identify needs and resources.

match students with jobs, make work experience compatible with existing classes and schedules, establish benchmarks to evaluate progress, and identify and recruit work sponsors.

GROUP II

3. Defined goals and policies: A written official statement by the responsible educational agency that delineates what is expected to be achieved by the cooperative education program.
4. Program administration: Program management including planning, organizing, evaluating, controlling, budgeting, supervising, communicating, and linking the program's activities to those of other systems.
5. Training agreement: A document signed by the teacher/coordinator, employer, and student defining the responsibilities of each, nature of work to be performed, time and hours of employment, and rate of pay for the work.
6. Resources for teacher/coordinators: The office space, equipment, supplies and travel allowance and other resources provided for teacher/coordinators to help them perform their jobs.
7. Criteria for selecting work stations: Requirements and guides established by the state department of education and local officials for selection of work stations and criteria used by teacher/coordinators.

GROUP III

8. Labor market information: Information about jobs which are appropriate for students and are available in the community, the employers who have the jobs, and the skills and abilities students should have and may be expected to gain in each job.
- X* Citizen advisory board or steering committee (A7)
9. Program evaluation: Activities to measure achievement of program goals, and the effectiveness of specific elements such as program administration, student selection, scheduling, related classroom instruction, work experience, forms and records, teacher/coordinators and public relations.
10. Follow up: Feedback from program graduates and work sponsors to obtain information for evaluating and improving the program and to assist cooperative education graduates achieve career objectives.

* Elements indicated by "X" are listed in two Functional Areas. The symbols in the parentheses following the element title identify the other Functional Area and the number of the element in that Area.

GROUP IV

- X. Resources provided by the government: (A9)
11. Manuals and guides for school personnel: Materials to instruct and assist teacher/coordinators, counselors, and administrators to carry out their roles effectively.

GROUP V

12. Coordination with other school programs: The degree to which the cooperative education program is linked to other school activities and staff to integrate work experience with other school work and deal with individual student's school problems and program needs.

Area C: Employer Linkages, Relations and Cooperation

GROUP I

1. Recruiting employers: Identifying employers who can provide appropriate work experience for students and getting them to participate in accordance with a training agreement.
2. Dealing with employers' problems: The flexibility and ability to provide educational support, to change education programs, time schedules training plans, and to provide other assistance to meet employer's needs.
3. Orienting employers and supervisors: Familiarizing employers and work supervisors with the objectives, procedures, and other elements of the program, including descriptions of the roles of the teacher/coordinator and the supervisor and information about the students to be employed.
4. Evaluation of students' work performance by employer: The criteria and procedures for evaluating students' work performance and supervisors' use of the performance evaluation.
5. Monitoring work site agreement: The frequency and nature of regular visits teacher/coordinators make to each work station to determine adherence to training agreement and training plan, evaluate student's progress, relate work experience and school instruction, develop the work station, resolve problems, and improve the program.

GROUP II

6. Relating in-school and on-the-job learning: The process for meshing and structuring work experience and school learning to make these activities mutually supportive.

Jobs designed to meet developmental needs: School and employer's efforts to identify and structure jobs to match students and jobs

and to maximize students' opportunities to become competent workers.

X. Training agreement: (B5)

8. Developing the work station: Getting employer's agreement to a progressive training plan and to structure jobs to meet students' needs and provide increasingly more difficult tasks; helping the employer to implement the training plan; orienting and training supervisors to help students acquire good work attitudes and skills, to evaluate students' performance; etc.
9. Training work supervisors: Providing training assistance to employers to help insure that supervisors understand needs of young people and can provide effective supervision and training.
- X. Support for program by employer's personnel (A4)
10. Flexibility in adjusting work stations to student's needs: The degree to which employers are open to suggestions from the teacher/coordinator to change tasks and other work conditions to meet contract and training plan terms and the developmental needs of students.
- X. Employer recognition (A2)
11. Related class curriculum: The curriculum for the class conducted by the teacher/coordinator which serves to link school and work.

GROUP III

12. Participation in student occupational organizations: Participation by students, staff, and employers in student occupational organizations and how this is used to complement, supplement, strengthen, and enrich the program.
13. Employer participation in student selection: The role the employer plays in selecting a particular student for a specific work station.
14. Training plan: The individual training plan developed by teacher/coordinator, employer and student which specifies the specific learning experiences to be provided on the job, the specific related classroom instruction and the progression and time frames for each.
15. Handling conflict and discipline at work site: The structure, guidelines and process for handling conflict at the work site involving a student.

GROUP IV

16. Student's participation in identifying work stations: The degree to which students are encouraged to seek and succeed in obtaining jobs which are appropriate cooperative education work stations.

GROUP V

17. Manuals and guides for employers' personnel: Materials provided by the school system for participating employers which spell out program objectives, guidelines and procedures, and provide information to help employers' personnel carry out their roles.

Area D: In-School Program Activities

GROUP I

1. Preparing student for work assignment: Instruction about the world of work to help the student understand and accept the roles and requirements of the work place including: punctuality, dependability, cooperation with other workers, productivity and supervision.
2. Matching students and jobs: The process for insuring that students are provided with learning experiences that will mesh with career objectives and in-school learning.
3. Use of work performance evaluation: Use of supervisors' evaluations to change in-school instruction and work assignments and to provide motivation, counseling and coaching for student and technical assistance for the employer.

GROUP II

4. Programs for students with special needs: Activities, classroom instruction, recruitment efforts, etc., for educationally disadvantaged students handicapped students and others who would have greater difficulty in obtaining good job placements than other cooperative education students.
- X. Relating in-school and on-the-job learning coordination: (C6)
5. Role of guidance counselor: Guidance and counseling services to help students in vocational and career decision making and relationship between counselor and teacher/coordinator.
6. Selecting and assigning students: Criteria and procedures for selecting student participants and assigning them to specific work stations. These include: age, grade, competencies, career aspirations, work readiness, and developmental limitations.
- X. Related class curriculum: (C11)

7. Students' orientation to cooperative education: School activities to explain and introduce cooperative education to students and to prepare them to make the most effective use of the opportunities presented. Includes discussion of training agreements and plans, relationship between education and work experience and between teacher/coordinator and supervisor, and education to meet task requirements.

GROUP III

- X. Training plan: (C14)
8. Students' participation in assignment: The ability of students to to influence their assignments to work stations.
- X. Participation in student occupational organizations: (C12)
- X. Recruiting students: (A8)

GROUP IV

- X. Students' participation in identifying work stations: (C16)

Area E: Follow-Up

GROUP III

1. Post graduation support: Planned activities to help program graduates to achieve career objectives including counseling, educational planning, and job development and placement.
- X. Follow up on program graduates: (B10)
- X. Program evaluation (B9)

APPENDIX B

FORCE-FIELD ANALYSIS

To Identify Opportunities to Improve Cooperative Education

PART I: PROBLEM SPECIFICATION: To determine what opportunities there are to improve the element:

Depending on your mode of analysis, work from either (a) the entire program and the impact of this element on it, or (b) the specific characteristics of this element. Respond to the following items with as much detail as possible.

1. It is important to improve this element at this time because:
2. The following factors which determine usefulness and cost must be considered in any attempt to improve this element:
3. Change in this element may have impact on other elements. Indicate which elements and how they would be impacted.
4. Barriers which may hinder change in this element are:
5. To improve the element, the following characteristics of the element should be changed in the manner indicated:
6. Changes in other elements which may help solve this problem. Indicate which elements and how they would impact this problem:

PART II: PROBLEM ANALYSIS: The present status of the element is a result of a temporary balance of driving forces tending to produce change and restraining forces tending to prevent change.

7. List the forces which in general tend to drive* toward the changes noted in "5" and "6." (Fill in the spaces to the right of the letters. Leave the spaces to the left blank.)

a. _____
b. _____
c. _____
d. _____
e. _____

8. List the forces which in general tend to restrain* change in the directions noted in "5" and "6." (Fill in the spaces to the right of the letters. Leave the spaces to the left blank.)

a. _____
b. _____
c. _____
d. _____
e. _____

9. In the spaces to the left of the letters in item 7 above, rate the driving forces you have listed from 1 to 5 using the following scale:

- 1 = Has almost nothing to do with achieving change in the element.
2 = Has relatively little to do with achieving change in the element.
3 = Is of moderate importance in achieving change in the element.
4 = Is an important factor in achieving change in the element.
5 = Is a major factor in achieving change in the element.

* Sometimes a force will tend to "drive" toward one change suggested and tend to "restrain" another one of the suggested changes. In these cases note them under the primary direction of thrust here, but note both directions in the chart in item II.

10. In the spaces to the left of the letters in item 7 above, rate the restraining forces you have listed, using the same number scale in item 8 with "driving force" replaced by "restraining force."
11. In the following chart, diagram the forces driving toward change and the restraining change that you rated in items 8 and 9. Use several key words to identify each of the forces driving toward change (a through e). Repeat the process for forces restraining change. If there are driving and restraining forces which relate to the same change, place them in the same slot. If several forces apply to the same change put them in adjoining slots. If a force applies for more than one change, repeat it for each change.

* Indicate whether "5" or "6" and number written item. For example, 5/3 indicates third force in item 5.

change number
force rating

DRIVING
FORCES

present equilibrium

RESTRAINING
FORCES

force rating
change number

12. For each change with forces rated "5," develop a series of strategies and tactics to increase the potency of driving forces and reduce the potency of restraining forces. Continue this process with forces rated "4," "3," "2," and "1" in order, until an appropriate strategy is developed for each. Stop when you feel that you have developed a satisfactory set of tactics and overall strategy for accomplishing the desired changes. Compare tactics and strategies across changes and eliminate possible conflicts. It may be that some proposed changes may have to be dropped as the restraining forces remain strong.
13. Describe your plans in detail.
 - a. Specify the problem to be solved.
 - b. Describe the changes that will improve the element and solve the problem -- show how the changes will achieve the objective.
 - c. Describe in detail the tactics and strategy for accomplishing the changes and explain why these will succeed and trade-offs which may be involved. Include resources, staff, etc. required and how these will be obtained and used. Provide schedules, controls, etc.
 - d. Indicate possible undesirable consequences for achieving other objectives and explain any trade-offs.
 - e. Note possible difficulties in achieving the desired change and ways to overcome these.
 - f. Build evaluation and controls into your plans so that the element can be further improved.

APPENDIX C
FORCE-FIELD ANALYSIS

PART I: To determine what opportunities there are to improve the
element: Identifying Work Stations*

1. It is important to improve this element at this time because our present activities are not producing enough work stations for all the students who wish to enroll.
2. The following factors must be considered in any attempt to improve this element:
 - competition from other agencies seeking to place for employment and training
 - local labor market, i.e., available work stations
 - resources available for recruiting new employers
 - the number and nature of the work stations needed
 - resources available for increased coordination and related instruction needs.
3. Change in this element will have impact on the following elements:
 - Dealing with Employer Problems: an increase in the number of employers may lead to an increase in the number of problems the coordinator will face.
 - Preparing Student for Work Assignment: more resources needed to prepare more students.
 - Matching Students and Jobs: more time needed for effective matching. matching less qualified students to appropriate jobs will be more difficult.
 - Orienting Employers and Supervisors: more employers require more time for orientation.

* This example is for illustrative purposes only. It makes assumptions about the design of the element which may not be true about yours and presents only a few of the considerations and alternatives present in a real situation.

- Criteria for Selecting Work Stations: may have to be eased in order to get sufficient numbers of employers and to place less qualified students.
 - Training Work Supervisors: more supervisors and supervising and training more educationally disadvantaged and handicapped students require more time for monitoring.
 - Monitoring Training Agreement: more employers and employers less able to provide good experience and good supervision require more time for monitoring.
 - Related Class Curriculum: more time and resources required for more students and less qualified students.
4. Barriers which may hinder change in this element are:
- Not enough funds to cover additional costs in this and other elements
 - Not enough time for additional work to expand present and develop new efforts
 - Not enough employers within school area
 - Adverse impact of other elements
 - Adverse reaction from other organizations seeking jobs.
5. To improve this element, the following characteristics should be changed:
- a. obtain additional resources for activity
 - b. involve others in identifying work stations
 - c. weaken criteria for acceptable work stations
 - d. place additional students with present participating employers.
 - e. gather information using mail and telephone rather than personal visits.

6. Changes in other elements which may help solve this problem. Indicate which elements and how they could impact on this problem:

- a. Recruiting students: Limit publicity to vocations leading to employment after secondary education.
- b. Selecting and assigning students: Limit enrollment to students who intend to work full-time after graduation and give priority to students who would benefit most in transition from school to employment

PART II: Problem Analysis: The present status of the element is a result of a temporary balance of driving forces tending to produce change and restraining forces tending to prevent change

7. List the forces which in general tend to drive* toward the changes noted in "5" and "6." (Fill in the spaces to the right of the letters. Leave the spaces to the left blank.)

5. a. The principal and school board want increased participation in cooperative education.
3. b. Students and Advisory Committee members want to help. *
4. c. Push to improve transition from school to work.
2. d. Marginal employers want to participate
4. e. Community and parental pressure to place disadvantaged and handicapped students.
3. f. Many college bound want jobs to earn money.

8. List the forces which in general tend to restrain* change in the directions noted in "5" and "6." (Fill in the spaces to the right of the letters. Leave the spaces to the left blank.)

*Sometimes a force will tend to "drive" toward one change suggested and tend to "restrain" another one of the suggested changes. In these cases note them under the primary direction of thrust here, but note both directions in chart in item 11.

- 5. a. Limited number of jobs in appropriate occupations.
- 5. b. High unemployment among out of school youth and adults.
- 4. d. Limited resources available to identify work stations.
- 3. e. State, federal and good education practice. Restrictions on acceptable work stations.
- 4. f. Students and advisory committee members have had no experience and may involve undesirable employers.

9. In the spaces to the left of the letters in item 7 above, rate the driving forces you have listed from 1 to 5 using the following scale:

1 = Has almost nothing to do with achieving change in the element.

2 = Has relatively little to do with achieving change in the element.

3 = Is of moderate importance in achieving change in the element.

4 = Is an important factor in achieving change in the element.

5 = Is a major factor in achieving change in the element.

10. In the spaces to the left of the letters in item 7 above, rate the restraining forces you have listed, using the same number scale in item 8 with "driving force" replaced by "restraining force."

11. In the following chart, diagram the forces driving toward change and restraining change that you rated in items 8 and 9. Use several key words to identify each of the forces driving toward change (a through e). Repeat the process for forces restraining change. If there are driving and restraining forces which relate to the same change place them in the same slot. If several forces apply to the same change put them in adjoining slots. If a force applies for more than one change repeat it for each change.

change number force rating			DRIVING FORCES	present equilibrium	RESTRAINING FORCES	force rating change number
5/a	5	Principal & school board want more participation		Limited resources available	4	5/a
	3	Students & advisory board want to help				
5/b	3	Students & advisory board want to help		Students and advisory board inexperienced	4	5/b
5/c	2	Marginal employers want to participate		State and federal restrictions on work station	3	5/c
	3	College-bound want paying jobs		Improve transition from school to work	4	
	4	Pressure to place disadvantaged & handicapped				
5/d	5	Principal and school board		Limited number of jobs in occupations	5	5/d
	4	Pressure to place disadvantaged		Union resistance	5	
				Competition	3	
5/e	5	Principal and school board		Limited resources available	5	5/e
	4	Pressure to place disadvantaged & handicapped		Limited resources available	4	
	3	College-bound want paying jobs				
6/a	4	Improve transition from school to work		Principal and school board	5	6/a
	4	Pressure to place disadvantaged & handicapped		College-bound want paying jobs	3	
6/b	4	Improve transition from school to work		College-bound want paying jobs	3	6/b
	4	Pressure to place disadvantaged & handicapped				

12. Change 5.a. "Obtain additional resources for activity"

Force 7/a: "Principal and school board." Focus their attention on the relationship between resources available and the ability to identify appropriate work stations to get more resources and agreement to divert resources from other activities, e.g., recruiting more students and to seek resources from outside the educational system. send them a proposal and a request showing what is needed to identify more work stations.

Force 7/b: "Students and Advisory Board help." They could help in several ways by helping obtain more resources by appeals to the principal and school board and to outside sources and by working directly to identify appropriate work stations. In the latter case they will require training and some supervision. Meet with each group and find what they can and want to do and then use the help in the most effective way.

Force 8/d "Limited resources." Reallocate resources to provide more for identification.

Possible conflicts and problems: Principal and school board may object to pressure for more resources. Students and advisory committee may not be subject to effective control after they get under way.

Reducing resources for other elements may be a poor trade-off.

13. a. To identify sufficient appropriate work stations for all students who want and are eligible to participate in cooperative education. (Note how the statement of the problem has changed as a result of analysis.)

b. 1. Seek additional resources for work station identification.

(a) from principal and school board

(b) accepting offer of advisory committee to seek work

stations (offer of students not accepted as too dangerous, e.g., students would expect that jobs they identify would be accepted and that they would be placed in them.)

- c. 1. (a) Send memo to principal and prepare meo for principal to school board describing the situation, documenting the need for additional resources, and describing the resources needed, what would be accomplished with them, and, if possible, how to obtain them.
- d. 1. (a) If resources are diverted from other programs the persons involved would be angry. If diverting from another element in your program, the results may be counter-productive on an overall basis.
- e. 1. (a) The principal may not want to divert funds from other programs without consulting the school board and unwilling to make a request of the school board. Present the proposal as part of the entire program and emphasize the forces in addition to the principal that are pushing for an expanded program, i. e., community people who want more disadvantaged and handicapped placed and the parents of college-bound students.
- f. 1. (a) Indicate a date by which additional resources must be made available for them to be useful this term.

APPENDIX D

WORKSHEET

Planning to Improve an Element

ELEMENT: _____

PROBLEM ANALYSIS:¹

OPPORTUNITIES FOR IMPROVEMENT:² _____

EVALUATION OF OPPORTUNITIES:³ _____

DECISION:⁴ _____

1. does not meet criteria, high cost, personnel not available, adverse impact on program outcome, etc.
2. from review of Element Description or field force analysis, or other analysis
3. impact on entire program, acceptance by environment, priority, cost, time frame and cost/benefit overall in sort and long-term.
4. nature of decision and rationale for decision.